

DUAL REVERSING VALVES FOR ECONOMIZED HEAT PUMP**ABSTRACT OF THE DISCLOSURE**

A refrigerant system is operable either in a heating mode or a cooling mode. The system is also provided with an economizer cycle that will function in both heating mode or cooling mode. A pair of four-way valves control the flow of refrigerant through the refrigerant cycle in a preferred embodiment. The first valve properly routes the refrigerant from the compressor either to the outdoor heat exchanger or to the indoor heat exchanger dependent upon whether cooling mode or heating mode is in place. The second valve routes the refrigerant serially from either the outdoor heat exchanger or the indoor heat exchanger through an economizer heat exchanger and a main expansion device, again dependent on whether the refrigerant cycle is in a cooling mode or in a heating mode. A tap is positioned upstream of the economizer heat exchanger and taps a portion of the refrigerant to provide the economizer function. The present invention thus provides a simple system for utilizing a refrigerant cycle for both cooling and heating modes, while still providing an economizer function in both modes.

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